Before the

FEDERAL COMMUNICATIONS COMMISSION

Washington, D.C. 20554

In the Matter of)
)
 In re: DELETE, DELETE, DELETE) GN Docket No. 25-133
)

COMMENTS OF Rural Broadband Network Servcies LLC and the undersigned

I respectfully submit these comments in response to the Commission's Public Notice in the above-captioned proceeding seeking input on identifying FCC rules that impose unnecessary regulatory burdens. Specifically, these comments address why the Commission should eliminate EIRP restrictions in unlicensed bands utilized by Wireless Internet Service Providers (WISPs) while maintaining appropriate transmitter output power limits.

I. INTRODUCTION

The Commission's restrictions on Effective Isotropic Radiated Power (EIRP) in unlicensed bands (including 2.4 GHz, 5 GHz U-NII bands, 6 GHz, and 60 GHz) represent precisely the type of unnecessary regulatory burden that should be eliminated. These restrictions disproportionately harm WISPs providing essential broadband connectivity to rural and underserved communities. While the Commission has legitimate authority to regulate raw transmitter output power to prevent harmful interference, extending this authority to restrict EIRP unnecessarily hampers broadband deployment, creates technical inefficiencies, and ultimately deepens the digital divide.

II. WISP OPERATIONS IN UNLICENSED BANDS FACE UNIQUE CHALLENGES

A. Rural Deployments Require Greater EIRP for Technical Viability

WISP deployments in rural and underserved areas face unique technical challenges that higher EIRP would help overcome:

1. *Extended Coverage Requirements*: Rural WISP operations typically cover large geographic areas with dispersed populations, requiring signals to travel significantly longer distances than urban deployments.

2. *Challenging Terrain*: Rural deployments frequently contend with hills, valleys, and dense foliage that attenuate signals far more than urban environments, necessitating additional signal strength to maintain reliable connections.

3. *Last-Mile Connectivity*: Fixed wireless connections to customer premises often require penetrating tree cover and overcoming terrain obstacles, challenges that cannot be efficiently addressed with lower EIRP limits.

B. Current EIRP Restrictions in Unlicensed Bands Severely Limit WISP Operations

Current Part 15 EIRP restrictions create substantial technical barriers for WISPs:

1. *5 GHz U-NII Bands*: The 36 dBm EIRP limit in U-NII-1 and U-NII-3 bands (and 30 dBm in U-NII-2 bands) severely constrains point-to-multipoint coverage, particularly in challenging terrain.

2. *2.4 GHz Band*: The 36 dBm EIRP limit in the 2.4 GHz band is particularly restrictive for longer-distance links, despite this band's favorable propagation characteristics for penetrating foliage.

3. *6 GHz Band*: While offering substantial bandwidth, the 6 GHz band's current EIRP restrictions make it impractical for longer-distance WISP applications despite minimal potential for interference in rural areas.

4. *Point-to-Point vs. Point-to-Multipoint Inconsistency*: While higher EIRP is permitted for some point-to-point applications, these exceptions are insufficient for typical WISP deployments that use sector antennas to serve multiple customers.

III. TECHNICAL DISTINCTION BETWEEN TRANSMITTER POWER AND EIRP IN WISP DEPLOYMENTS

A. WISP-Specific Technical Considerations

In WISP deployments, EIRP management involves specialized technical considerations:

1. *Sector Antenna Deployments*: WISPs typically deploy sector antennas (60-120 degree beamwidth) that focus energy in a specific direction, significantly reducing potential for interference compared to omnidirectional systems.

2. *Highly Directional Customer Premises Equipment (CPE)*: Customer installations typically use highly directional antennas (10-20 degree beamwidth) pointed precisely at the tower, further minimizing interference potential.

3. *Vertical Separation*: WISP tower installations typically place equipment at elevated heights (30-200 feet), creating vertical separation that naturally reduces interference potential regardless of EIRP.

B. Directional Systems Inherently Manage Interference

Modern WISP systems employ sophisticated directional technology that mitigates interference concerns:

1. *Fixed Installation Alignment*: Unlike mobile devices, fixed wireless installations are precisely aligned by professional installers, ensuring signals are directed exactly where needed and nowhere else.

2. *Frequency Coordination*: WISPs employ sophisticated frequency planning to minimize self-interference and use dynamic frequency selection to avoid interference with other users.

3. *Adaptive Modulation and MIMO*: Modern WISP equipment uses adaptive modulation and MIMO technology that can effectively utilize higher EIRP when needed while automatically reducing power when conditions permit.

IV. REDIRECTING REGULATORY FOCUS TO RECEIVER STANDARDS

A. Receiver Performance Standards Represent More Effective Regulatory Approach

The Commission should shift its regulatory focus from transmitter EIRP restrictions to receiver performance standards:

1. *Root Cause of Interference Issues*: Poor receiver selectivity and filtering capabilities are often the true cause of interference problems, not transmitter power levels.

2. *Technological Inefficiency*: Restricting transmitter EIRP to accommodate poorly designed receivers creates a "lowest common denominator" approach that wastes spectrum resources and penalizes efficient operators.

3. *Adjacent Band Challenges*: Many interference issues stem from receivers' inability to reject signals from adjacent bands, a problem that cannot be solved through EIRP restrictions alone.

B. Benefits of Receiver-Focused Regulation for Spectrum Efficiency

A regulatory approach emphasizing receiver performance would yield significant benefits:

1. *Increased Spectrum Sharing*: High-quality receivers with better filtering capabilities would enable more intensive use of adjacent frequencies without interference concerns.

2. *Future-Proofing*: As spectrum becomes increasingly congested, receiver standards become exponentially more important for managing coexistence between diverse services.

3. *Technology Neutrality*: Receiver standards focus on performance outcomes rather than prescribing specific transmission characteristics, promoting innovation in system design.

C. Technical Advisory Bodies Support Receiver Standards Approach

The Commission's shift toward receiver standards aligns with expert recommendations:

1. *TAC Recommendations*: The Commission's Technological Advisory Council has repeatedly recommended focusing on receiver performance standards rather than transmitter restrictions.

2. *NTIA Support*: The National Telecommunications and Information Administration has advocated for improved receiver standards as a key component of spectrum management.

3. *International Precedent*: The European Conference of Postal and Telecommunications Administrations (CEPT) has successfully implemented receiver standards as part of its spectrum management approach.

V. LEGAL AUTHORITY SHOULD FOCUS ON TRANSMITTER POWER, NOT ANTENNA SYSTEMS

A. Part 15 Rules Should Emphasize Non-Interference Rather Than Technical Limitations

The Commission's Part 15 rules properly focus on a non-interference basis, but improperly extend to micromanaging antenna systems:

1. *47 CFR § 15.5(b)* already establishes that unlicensed devices must accept interference and must not cause harmful interference, providing adequate protection without EIRP restrictions.

2. *47 CFR § 15.5(c)* provides the Commission authority to require operators to cease operating devices causing harmful interference, offering powerful after-the-fact remedies that make preventive EIRP restrictions unnecessary.

3. The D.C. Circuit in *American Radio Relay League, Inc. v. FCC* (524 F.3d 227, 2008) emphasized that the Commission must provide a reasoned analysis when imposing technical restrictions affecting unlicensed users.

B. Section 7 of the Communications Act Requires Promotion of New Technologies

The Commission has an affirmative obligation to promote new technologies:

1. *47 U.S.C. § 157(a)* establishes that "[i]t shall be the policy of the United States to encourage the provision of new technologies and services to the public."

2. Excessive EIRP restrictions directly contradict this statutory mandate by preventing WISPs from deploying the most efficient technical solutions to serve rural communities.

3. The Commission's Connect America Fund and RDOF programs commit billions to addressing the rural digital divide, yet EIRP restrictions in unlicensed bands undermine these very initiatives by making WISP deployments more costly and less effective.

VI. EIRP RESTRICTIONS IMPOSE DISPROPORTIONATE BURDENS ON RURAL WISP OPERATIONS

A. Economic Impact on Small Business WISPs

EIRP restrictions disproportionately harm smaller WISP operators serving rural communities:

1. *Increased Tower Requirements*: Lower EIRP limits force WISPs to build more towers to achieve necessary coverage, with each additional tower costing 30,000−30,000-30,000−100,000 in construction, equipment, and permitting expenses.

2. *Reduced Customer Base Per Tower*: EIRP restrictions reduce the effective coverage area of each tower, limiting the number of potential customers that can be economically served.

3. *Higher Customer Premises Equipment Costs*: When tower signals are limited in power, customer premises equipment must be more sensitive and use larger antennas, increasing installation costs.

B. Practical Impacts on Rural Broadband Availability

EIRP restrictions directly impact broadband availability and quality in rural America:

1. *Coverage Gaps*: Areas that could technically be served with higher EIRP remain without service because deployment becomes economically unviable under current restrictions.

2. *Reduced Service Quality*: Lower EIRP translates to lower signal margin, resulting in less reliable connections during adverse weather conditions, including rain fade, snow, and heavy foliage.

3. *Speed Limitations*: Signal-to-noise ratio directly impacts maximum throughput, meaning EIRP restrictions artificially limit the maximum speeds WISPs can deliver to rural customers.

C. Digital Divide Implications

EIRP restrictions directly contribute to the rural digital divide:

1. *Competitive Disadvantage*: Rural WISPs must compete with urban fiber and cable providers despite being subject to restrictions that make their service delivery fundamentally more expensive.

2. *Reduced Investment Viability*: The economics of rural WISP deployment becomes increasingly challenging under strict EIRP limitations, reducing private investment in these critical infrastructure services.

3. *Educational and Economic Impact*: Communities without reliable high-speed internet face educational and economic disadvantages that cascade through generations.

VII. MINIMAL INTERFERENCE RISK IN RURAL WISP DEPLOYMENTS

A. Rural Environments Present Minimal Interference Concerns

Rural areas where WISPs predominantly operate have inherently lower interference potential:

1. *Population Density*: Rural areas have significantly lower device density per square mile, naturally reducing the potential for interference regardless of EIRP.

2. *Spectrum Congestion*: Unlike urban environments where unlicensed spectrum is heavily utilized, rural areas typically have abundant unused spectrum capacity.

3. *Geographic Isolation*: Many WISP operations serve communities that are geographically isolated, with natural terrain features further containing potential signal propagation.

B. WISP Industry Self-Regulation

The WISP industry has developed effective self-regulation practices:

1. *WISPA Coordination*: The Wireless Internet Service Providers Association (WISPA) promotes technical standards and best practices that effectively manage interference.

2. *Frequency Coordination*: WISPs regularly coordinate frequencies informally with neighboring operators to prevent interference issues.

3. *Professional Certification*: Many WISP technicians hold certifications from WISPA, CBRS, and equipment manufacturers that emphasize proper installation and interference mitigation techniques.

VIII. PROPOSED ALTERNATIVE REGULATORY FRAMEWORK

The Commission should adopt a more flexible regulatory approach specifically for WISP operations in unlicensed bands:

1. *Population Density-Based EIRP Limits*: Implement variable EIRP limits based on population density, allowing significantly higher EIRP in rural areas (e.g., <100 people per square mile).

2. *Maintain Transmitter Power Limits*: Continue regulating the raw output power of transmitters while allowing flexibility in antenna gain for rural deployments.

3. *Professional Installation Requirements*: For higher-EIRP systems, require professional installation certification rather than absolute power restrictions.

4. *Receiver Performance Standards*: Develop and implement minimum receiver selectivity and adjacent channel rejection standards for new equipment, while relaxing EIRP restrictions for transmitters.

5. *Documented Interference Resolution Process*: Strengthen processes for addressing actual interference complaints rather than preventing theoretical interference through preemptive restrictions.

IX. CONCLUSION

For the foregoing reasons, the Commission should eliminate or substantially modify its EIRP restrictions in unlicensed bands used by WISPs as part of its "Delete, Delete, Delete" initiative. Current EIRP restrictions disproportionately harm rural broadband deployment, create economic inefficiencies, deepen the digital divide, and micromanage technical aspects of wireless systems.

Instead, the Commission should redirect its regulatory focus toward receiver performance standards, which would more effectively promote spectrum efficiency and coexistence while allowing rural WISPs the technical flexibility needed to serve challenging areas. This approach would better fulfill the Commission's statutory obligation to promote advanced telecommunications capability to all Americans while creating a more sustainable framework for future spectrum sharing.

Respectfully submitted,

Alex Phillips Rural Broadband Network Services LLC 3/14/2025

And the undersigned

3/14/2025 7:29:20	Sundial Communications, Inc.	David Dean	Boulder, Colorado	
3/14/2025 11:15:02	Vicinity Solutions, Inc.	William Glenn	Dolores, CO	YES!
3/14/2025 13:09:46	SPECTRULINK L.L.C	Gregory Bonillas	Streetman, TX	
3/14/2025 13:13:14	Blue Pulse Networks LLC	Andrew Bower	Centerton, AR	
3/14/2025 13:45:21	Double Dog Comminications	Ernie Preston	York, PA	We would appreciate your consideration in ending this filing requirement for the smaller WISP, especially those of us who have never asked for or received government funding. This is an unreasonable burden for the small ISP's who do not have the financial resources to handle it.
3/14/2025 13:54:12	Northwest Ohio Broadband LLC	Tim Reichhart	Coldwater,OH	
3/14/2025 18:52:07	Netafy, Inc	Donald Dawson	Errol NH	Please end all these burdensome regulations on small operators including BDC in its current form
3/14/2025 19:02:02	Precision Data Solutions, LLC / DBA PDS Connect	Eric Rogers	Mooresville, IN	As a private company, we should not be required to spend thousands of dollars to tell where our customers are, what products we offer, and how successful we are in reaching those customers. Furthermore, our competition is using

				this data to overbuild us when we are doing what they have not for nearly 100 years.
3/14/2025 20:46:23	Eastern Carolina Broadband LLC	Al Rachide	Pink Hill NC	The BDC filings have been a painful burden on our small company. Hundreds of man hours have been spent reporting who could get our internet service. Yet most of these addresses have access to multiple provides, all with more than enough speed and reliability and all at affordable prices. What has been gained here? The brow beating of the internet service providers? And for what purpose other than to satisfy the cravings of a few at the FCC?
3/14/2025 22:31:57	RiverNet, LLC	Austen Parish	Georgetown, MD	This broadband collection has only dramatically increased my workload while not preventing fiber from overbuilding me. I'm watching 3 fiber companies overbuild each other and we ALL deliver 1Gb/s symmetrical as well as have a saturated comcast market.
3/14/2025 23:05:29	Ravalli Broadband LLC	Lynn Hammers	Stevensville, MT	
3/15/2025 7:07:18	Brady Communications, LLC	Chad Huffman	Brady, Texas	Delete any policy that supports government interfering with the

				private sector
3/15/2025 11:36:31	Altitude ISP, LLC	Nathan Stone	Copperas Cove, TX	
3/15/2025 16:26:01	Triad Wireless	Rory P Conaway	Phoenix/Az	
3/15/2025 17:51:19	South East Wireless	Kirstie Collins	Dothan, AL	
3/15/2025 22:52:40	Gila Broadband	Andy Wilhelm	Concho, AZ	
3/16/2025 11:40:41	Smart Way Communications, LLC	Ryan Grewell	New Philadelphia, Ohio	
3/16/2025 14:27:54	Free Range Internet	Alex Drean	Ajo, AZ	
3/16/2025 20:51:29	Riverside Broadband LLC	Tobias Nelson	West Portsmouth Ohio	
3/16/2025 21:28:42	Southern edge broadband	Joseph marsh	Oneonta Alabama	
3/16/2025 22:04:02	Webgears	Bill Laakkonen	Hobe Sound, Florida	This reporting requirement should be deleted as it is an onerous burden particularly for small ISPs who often do not employ PEs to certify the reports as the FCC requires unecessarily.
3/17/2025 17:51:15	CresComm WiFi LLC, Inc	Robert Pensworth	Port Angeles, WA	
3/17/2025 18:09:45	186networks	Michael Gaylord	Rapid City Michigan	We feel the BDC reporting should not continue. It creates an undue burden on our companies staff. With all the current BEAD almost done, and from what I understand little to no other funding Grants on the horizon, I believe the reporting requirements are no longer needed.

3/17/2025 18:32:23	Lee Wireless, LLC	Michael Lee	El Paso, TX	
3/17/2025 18:58:58	Wireless Data Net, LLC	Tristan Johnson	Saybrook, IL	
3/17/2025 19:19:29	TellerWifi	Zach Babiarz	Woodland Park, Colorado	
3/17/2025 19:21:42	ZipLink Systems LLC	David Busch	San Tan Valley, AZ	
3/17/2025 20:06:25	LCS Fibercom, LLC	Jamie Groskopf	Willis, Texas	Signed in support of the proposed deregulation that imposes undue burdens on small and innovative businesses and creates an unjust competitive advantage for large subsidized regional monopolies.
3/17/2025 20:24:51	Interstate Wireless inc D/b/a Az Airnet	wayne markis	tempe, az.	Small Wireless ISP have this burden mandated on them, and because we use Unlicensed technology to provide service, BDC and BEAD show our areas as UNSERVED. We essentially are mandated to provide information to the Government to put ourselves out of business.
3/17/2025 20:29:05	RC Wireless	Caden	Idaho	
3/17/2025 20:54:02	Quantum Communications LLC	Keelin Hanrahan	Lexington Missouri	
3/17/2025 20:54:02	9Stone LLC	Bryan Scott	Grantsville, UT	
3/17/2025 21:38:35	Internet Service Inc	Steve Wright	Big Rapids MI	
3/17/202	Susquehanna	Christopher	Northumberland, PA	

5 22:30:22	Broadband, LLC	Miller		
3/18/2025 15:01:42	Falcon Internet	Jeff Taylor	Salado Texas	
3/19/2025 2:32:22	Ardent Wireless LLC	Brendan Coon	Spokane, WA	Fully support this. The requirements are extremely burdensome and costly for our small business, and we continue to be overbuilt by BEAD even though we provide 500mbps fixed wireless in the areas being overbuilt. Something needs to change.
3/20/2025 14:43:51	ProValue.Net	Nick Beverage	Stillwater, Oklahoma	I agree with all of the statements provided.
3/26/2025 15:03:17	Brightlan	Ralph Fowler	Kennesaw, GA	
3/27/2025 11:51:54	WON Communicaitons	matthew thomas	springfield, mo	Thanks for considering this request
4/13/2025 16:02:19	Rapid Wireless, LLC	Joshua Thurston	Hartford, Alabama	